

TWO NEW SPECIES OF THE GENUS *ANISOMYSIS* (CRUSTACEA: MYSIDACEA) FROM NORTHERN AUSTRALIA.

MASAAKI MURANO

Department of Aquatic Biosciences, Tokyo University of Fisheries,
4-5-7 Konan, Minato-ku, Tokyo 108, Japan.

ABSTRACT

Nine species and subspecies of *Anisomysis* have been recorded from Australian waters to date. These are *A. bipartoculata*, *A. gracilis*, *A. hispida*, *A. incisa*, *A. laticauda*, *A. mixta australis*, *A. mullini*, *A. pelewensis* and *A. robustispina*. The present two new species, therefore, are the tenth and eleventh species of *Anisomysis*, and their occurrence is the first record from Northern Territory waters. *Anisomysis spatulispina* n. sp. is distinguished from other species of the genus by the shape and armature of the telson. *Anisomysis nana* n. sp. is distinguished from allied species by having a rounded rostrum and the telson with a deep, U-shaped cleft.

KEYWORDS: Crustacea, Mysidacea, *Anisomysis*, *Anisomysis spatulispina* n. sp., *Anisomysis nana* n. sp. Northern Territory, Australia.

INTRODUCTION

Two new species of the genus *Anisomysis* Hansen described herein are based on specimens which were collected in the Northern Territory of Australia and stored in the Northern Territory Museum (NTM). From Australia, nine species of *Anisomysis* have been recorded as follows: *A. mixta australis* Zimmer from Victoria (Zimmer 1918); *A. mixta australis* from New South Wales (Tattersall 1927); *A. mixta australis* from South Australia (Tattersall 1927); *A. hispida* Pillai (Pillai 1973), *A. bipartoculata* Li, *A. gracilis* Panampunnayil and *A. robustispina* Panampunnayil from Western Australia (Panampunnayil 1984); *A. incisa* Tattersall, *A. laticauda* Hansen (Tattersall 1936), *A. mixta australis*, *A. pelewensis* Li (Fenton 1986) and *A. mullini* Murano from Queensland (Murano 1987). The present report is the first record of *Anisomysis* from Northern Territory waters.

SYSTEMATICS

Anisomysis Hansen, 1910
Anisomysis spatulispina n. sp.
(Fig. 1A-I)

Type Material. HOLOTYPE - adult male, NTM Cr.004319, 5.9 mm, Coral Bay, Port

Essington, Northern Territory, Australia, 11°11.3'S 132°11.5'E, 4 m, 12 September 1985, collected by A.J. Bruce.

Other material. 1 immature male, NTM Cr.004130, 3.4 mm, Coral Bay, Port Essington, 7 m, 11 August 1986.

Description. Rostrum triangular, with narrowly rounded apex overreaching base of antennular peduncle, lateral margin of rostrum convex (Fig. 1A); anterolateral corner of rostrum rounded; posterior margin of carapace emarginate dorsally, leaving last thoracic somite uncovered.

Eye large; cornea globular, wider than eyestalk; eyestalk with prominent groove at junction of cornea, without any papilliform process on dorsal surface (Fig. 1A).

Antennular peduncle robust, first segment as long as third, armed on distolateral corner with several setae, one longer and thicker than others, third segment with large processus masculinus (Fig. 1A).

Antennal scale extending beyond distal end of antennular peduncle but not to apex of processus masculinus, slender, 7 times longer than broad, outer margin very slightly concave, inner margin convex, setose all round, distal suture well marked (Fig. 1B). Antennal peduncle short, less than half as long as scale (Fig. 1B).

First segment of mandibular palp short, with triangular process on inner margin; second seg-

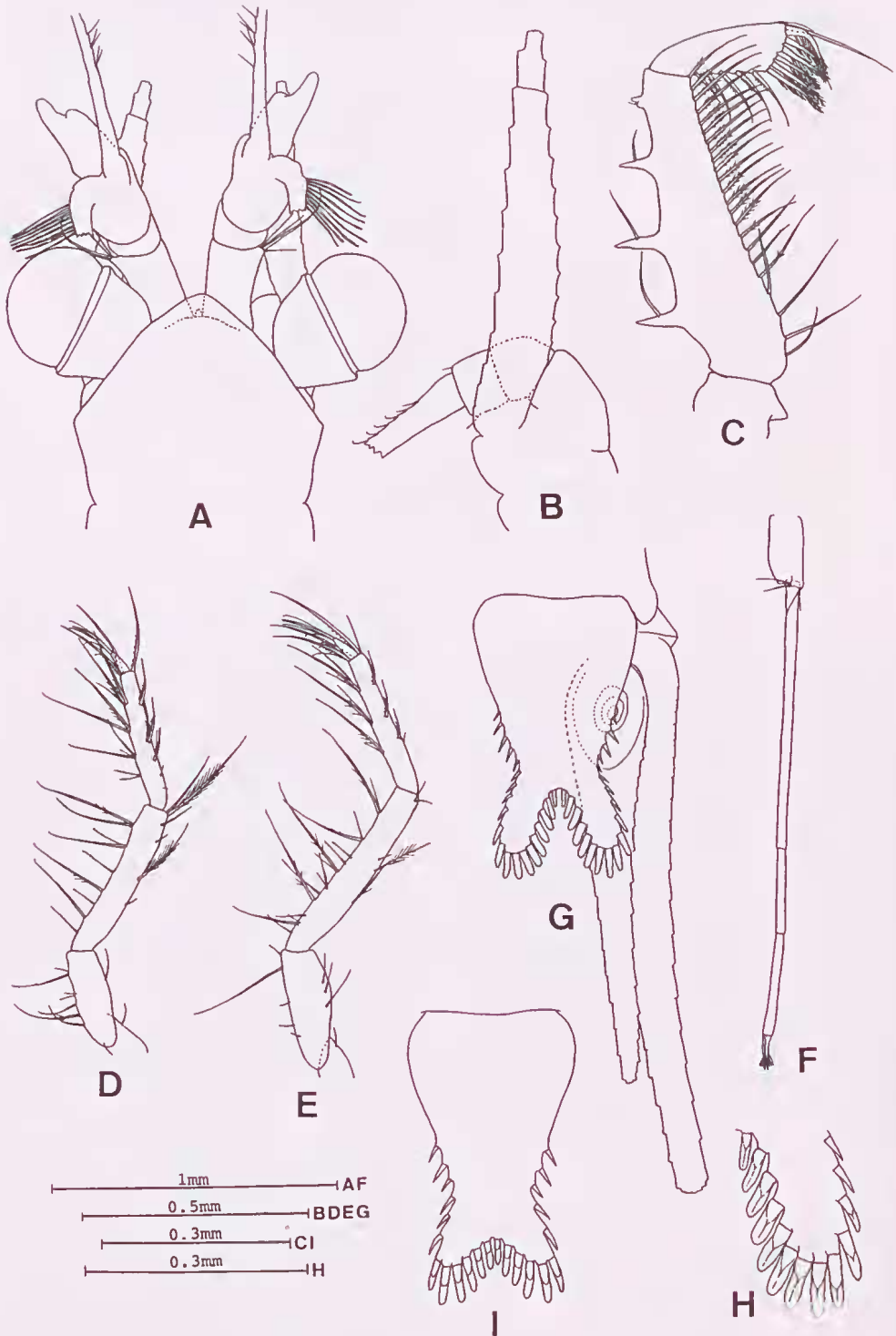


Fig. 1. *Anisomysis spatulispina* n. sp.: A, anterior end; B, antenna; C, mandibular palp; D, endopod of fourth thoracic limb; E, endopod of fifth thoracic limb; F, fourth pleopod; G, uropod and telson; H, right distal lobe of telson; I, telson of immature male.

ment with four prominent flagellate denticles along inner margin, proximal two largest, outer margin very slightly concave, with 23 barbed setae arranged at rather regular intervals; third segment subrectangular, inner margin with five barbed setae, distal margin with seven setae of three kinds, outer margin with single short and simple seta at distal end (Fig. 1C).

Endopods of third to eighth thoracic limbs of usual form in this genus, carpopropodus undivided into subsegments (Fig. 1D, E). Flagella of thoracic exopods segmented to 7-8.

Abdomen with first four somites subequal; fifth somite 1.3 times longer than the fourth; sixth somite 1.4 times longer than the fifth.

Fourth male pleopod biramous; endopod reduced to small lobe with several setae; exopod extremely elongated, reaching distal end of telson, 3-segmented, first segment 3.0 times longer than second segment, third segment 1.2 times longer than second segment, with two terminal setae of same length (Fig. 1F).

Uropod slender, setose all round; endopod straight, twice as long as telson; exopod slightly curved outward, overreaching endopod by about 1/5 of its length (Fig. 1G).

Telson short, 3/4 length of sixth abdominal somite, 1.6 times longer than broad at base, constricted at distal third, narrowest part about half as wide as base, distal part posterior to constriction again becoming broader and bilobed; distal sinus deep, 1/4 of telson length; lateral margin of telson naked in proximal 2/5, armed in distal 3/5 with about 10 spines, four or five being located before constriction; apices and sinus with 18 spines, flattened and rounded at apex (Fig. 1G, H).

Remarks. *Anisomysis spatulispina* n. sp. resembles *Anisomysis hosakai* Murano, 1990, and *Anisomysis gracilis* Panampunnayil, 1984, in having the mandibular palp with flagellate denticles on the inner margin of second segment and in the telson with both lateral constriction and distal sinus. From *A. hosakai*, however, the new species differs in telson shape, i.e. the telson is clearly constricted in the new species, whereas in *A. hosakai* the constriction is so slight that it is barely recognizable, and the distal sinus is deeper (1/4 of telson length) than in *A. hosakai* (1/5 of telson length). From *A. gracilis*, the new species is also distinguishable in the following: (1) antennal scale 7.0 times as long as broad and not extending beyond apex of processus masculinus

in the new species, while 10 times as long as broad and far extending beyond processus masculinus in *A. gracilis*; (2) second segment of mandibular palp with four flagellate denticles in the new species versus seven in *A. gracilis*; (3) exopod of fourth male pleopod with second segment shorter than the third in the new species, while longer in *A. gracilis*; (4) constriction of telson half as broad as base in the new species, while it is 1/4 as broad in *A. gracilis*; and (5) distal sinus of telson 1/4 as long as telson in the new species, while it is 1/13 as long in *A. gracilis*.

Etymology. The specific name is derived from the shape of marginal spines on the telson sinus.

Anisomysis nana n. sp.

(Fig. 2 A-F)

Type material. HOLOTYPE - adult female with fully developed marsupium, NTM Cr.005918, 3 m, Nightcliff Beach, Darwin, Northern Territory, Australia, reef flat pool, 11 September 1987, collected by D. Sachs.

Description. Carapace with anterior margin broadly rounded, barely extending to base of antennular peduncle, partly covering eyestalk (Fig. 2A); anterolateral corner rounded; posterior margin emarginate, leaving last thoracic somite exposed dorsally.

Eye large with globular cornea, extending laterally beyond lateral margin of carapace (Fig. 2A).

Antennular peduncle rather slender, first segment as long as third segment (Fig. 2A). Antennal scale reaching distal end of antennular peduncle, slender, nearly straight, about 7.0 times longer than broad, both outer and inner margins setose, distal suture absent. Antennal peduncle short, not extending to middle of scale, second and third segments wider than long (Fig. 2B).

Mandibular palp foliated, second segment 3.0 times as long as broad, without flagellate denticles on inner margin, third segment more than 3.0 times as long as broad, subrectangular.

Endopod of seventh thoracic leg with ischium shorter than merus, merus longer than carpopropodus and dactylus combined, carpopropodus not divided into subsegments, dactylus about 1/4 of carpopropodus in length, terminating in slender nail; exopod distal to basal plate 8-segmented (Fig. 2D). Eighth thoracic limb considerably smaller than seventh, merus of endopod shorter than carpopropodus

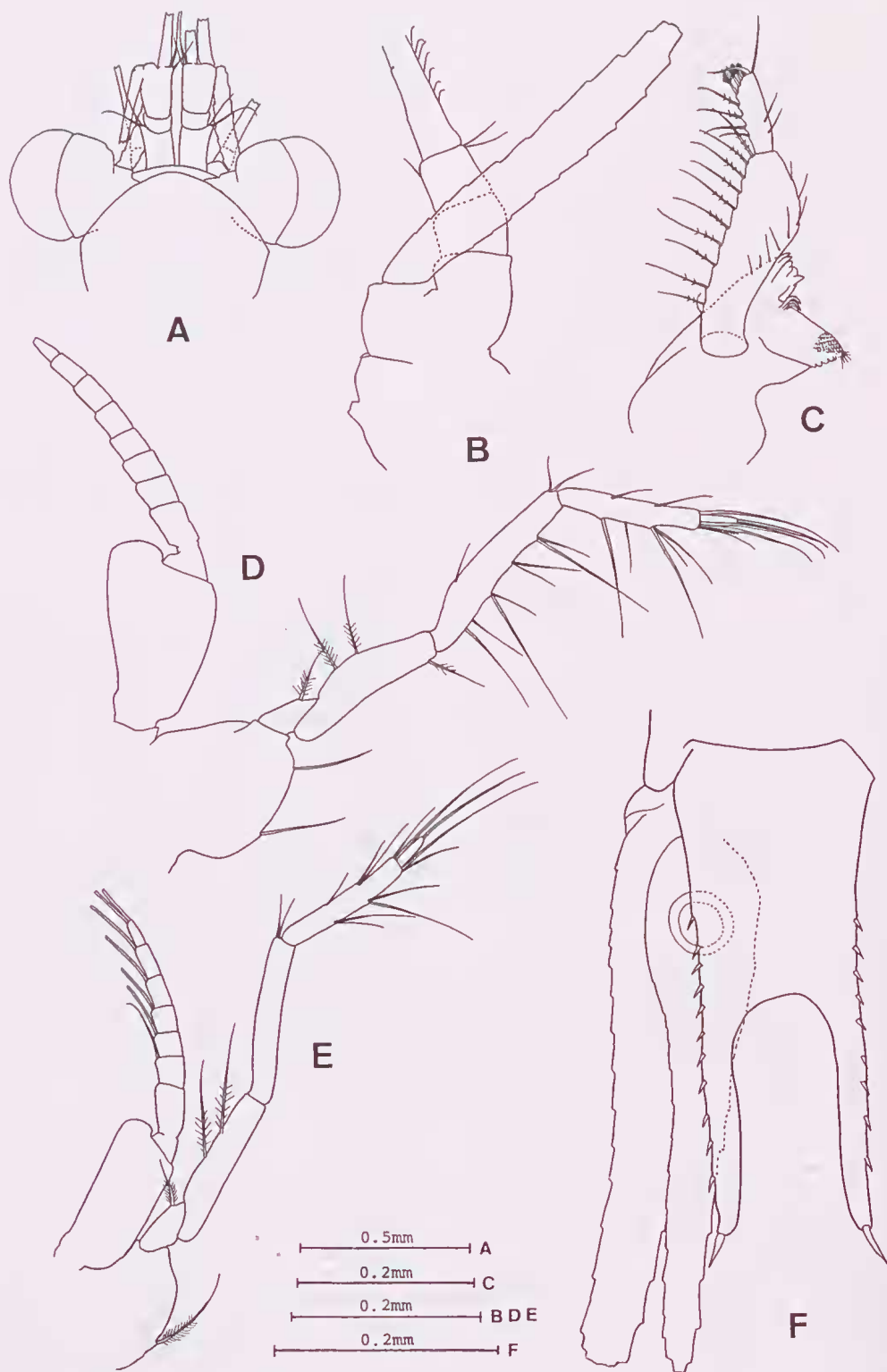


Fig. 2. *Anisomysis nana* n. sp. : A, anterior end; B, antenna; C, mandible; D, seventh thoracic limb; E, eighth thoracic limb; F, uropod and telson.

and dactylus combined, without setae on both inner and outer margins except two setae at outer distal corner; exopod distal to basal plate 7-segmented (Fig. 2E).

Sixth abdominal somite 1.5 times longer than the fifth, 1.5 times longer than broad.

Uropod setose all round; exopod extending posteriorly beyond telson for 1/4 of its length, slightly curved outward; endopod tapering, as long as exopod, without spines in statocyst region (Fig. 2F).

Telson slightly longer than last abdominal somite, 2.5 times as long as broad at base, very deeply cleft for about half its length, cleft very wide, U-shaped and unarmed, distal part of telson forming two-pronged fork; lateral margin armed along distal 2/3 with 9-11 similar-sized spines, six or seven of which are on fork, each fork apex with single spine considerably longer than lateral spines.

Remarks. The new species is characterized by the two-pronged telson, which has a deep cleft without spines and each apex terminating in a single spine. Such a telson is known in five species in the genus *Anisomysis*: *A. bifurcata* Tattersall, 1912, *A. megalops* (Illig, 1913), *A. pelewensis* Li, 1964, *A. minuta* Liu and Wang, 1983, and *A. spinata* Panampunnayil, 1993. The present new species is most closely related to *A. spinata*, from the Lakshadweep Archipelago in the Arabian Sea, in that the telson has a deep and U-shaped cleft. The new species, however, is distinguishable from the latter as follows: (1) anterior margin of carapace broadly rounded, while it is triangular with obtusely pointed apex in *A. spinata*; and (2) lateral margin of telson armed with 9-11 spines, 6-7 of which arise on the prong, whereas in *A. spinata* the number of spines is 6, only 2 of which are on the prong.

The new species is also allied to *A. megalops* in possessing a deep cleft in the telson, but differs from the latter which is characterized by a pointed rostrum, the eye having a small process on its stalk, the antennal scale extending beyond the distal end of the antennular peduncle, the telson cleft being rather V-shaped and the telson with 2 or 3 spines on the lateral margin of prong (Illig, 1913, 1930). *Anisomysis nana* n. sp. is easily distinguished from the remaining three species by the shape and armature of the telson.

Etymology. The species name is derived from the very small-sized body.

ACKNOWLEDGEMENT

I wish to express my sincere thanks to Dr. A. J. Bruce, formerly of the Museum of Northern Territory of Australia, for giving me the opportunity of examining the present material.

REFERENCES

- Fenton, G.E. 1986. Ecology and taxonomy of mysids (Crustacea: Mysidacea). Ph.D. thesis, University of Tasmania.
- Li, N. 1964. *Fauna Japonica, Mysidae (Crustacea)*. Biogeographical Society of Japan: Tokyo.
- Illig, G. 1913. Ein weiterer Bericht über die Schizopoden der deutschen Tiefsee-Expedition 1898-1899. *Zoological Anzeiger* 43: 271-273.
- Illig, G. 1930. Die Schizopoden der deutschen Tiefsee-Expedition. *Wissenschaftliche Ergebnisse deutschen Tiefsee-Expedition auf dem Dampfer "Valdivia" 1898-1899* 22: 397-629.
- Liu Ruiyu and Wang Shaowu. 1983. On three new species of Mysidacea (Crustacea) from the coastal waters of Guangdong, China. *Oceanologia et Limnologia Sinica* 14: 522-530.
- Murano, M. 1987. A new species of the genus *Anisomysis* from the Great Barrier Reef (Mysidacea). *Crustaceana* 52: 47-52.
- Murano, M. 1990. Mysidacea fauna from coastal waters of Akajima Island, Ryukyu Islands. *Journal of Tokyo University of Fisheries* 77: 189-212.
- Panampunnayil, S. U. 1984. Two new species belonging to the genus *Anisomysis* (Crustacea, Mysidacea) and a new record of *Anisomysis bipartoculata* from the Indian Ocean. *Journal of Plankton Research* 6: 943-952.
- Panampunnayil, S. U. 1993. Two new species of *Anisomysis* (Crustacea-Mysidacea) from Lakshadweep archipelago. *Journal of Plankton Research* 15: 1141-1148.
- Pillai, N.K. 1973. Mysidacea of the Indian Ocean. Handbook to the international zooplankton collections. *Papers on the Zooplankton Collections of the IIOE* 7: 1-125.
- Tattersall, W. M. 1912. On the Mysidacea and Euphausiacea collected in the Indian Ocean during 1905. The Percy Sladen Trust Expedition to the Indian Ocean in 1905, vol. 4, No. 9. *Transactions of Linnean Society of London, Zoology, series 2* 15: 119-136, 2 pls.
- Tattersall, W. M. 1927. Australian opossum shrimps. *Records of the South Australian Museum* 3: 235-257.
- Tattersall, W.M. 1936. Mysidacea and Euphausiacea. *Great Barrier Reef Expedition 1928-29. Science*

tific reports. London, British Museum (Natural History) 5: 143-176.

Zimmer, C. 1918. Neue und wenig bekannte Mysidaceen des Berliner Zoologischen Muse-

ums. Mitteilungen aus dem Zoologischen Museum in Berlin 9: 13-26.

Accepted 18 July, 1995